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(74) Agents: BIRD, William, E. et al.; Bird Goen & Co, Klein Dalenstraat 42A, B-3020 Winksele (BE).

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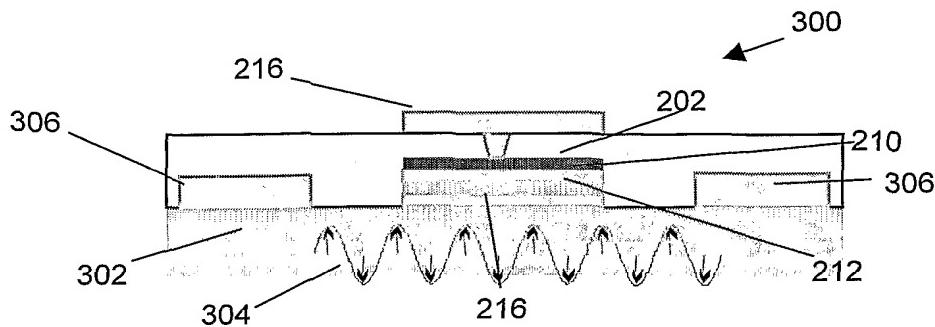
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(71) Applicant (for all designated States except US): INTERUNIVERSITAIR MICROELEKTRONICA CENTRUM VZW [BE/BE]; Kapeldreef 75, B-3001 Leuven (BE).

(72) Inventors; and

(75) Inventors/Applicants (for US only): EYCKMANS, Wouter [BE/BE]; Technische- Schoolstraat 87, B-2440 Geel (BE). LAGAE, Liesbet [BE/BE]; Oud-Strijdersstraat 109, B-3020 Herent (BE).

(54) Title: FULLY INTEGRATED TUNEABLE SPIN TORQUE DEVICE FOR GENERATING AN OSCILLATING SIGNAL AND METHOD FOR TUNING SUCH APPARATUS



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(57) Abstract: The present invention is related to a device and corresponding methods for generating an oscillating signal. The device comprises a means for providing a current of spin polarised charge carriers, a magnetic, e.g. ferromagnetic, excitable layer adapted for receiving the generated current of spin polarised charge carriers thus generating an oscillating signal with a frequency v_{osc} and an integrated means for interacting with said magnetic, e.g. ferromagnetic, excitable layer such that a selection of said oscillation frequency is achieved. No external field needs to be applied to select or tune the frequency. Different types of integrated means can be used, such as e.g. means inducing mechanical stress in the magnetic, e.g. ferromagnetic, excitable layer, means inducing exchange bias interactions and means inducing magnetostatic interactions.